
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

POST-EFFECTIVE AMENDMENT NO. 1
TO
FORM S-1
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

XTANT MEDICAL HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

3841
(Primary Standard Industrial
Classification Code Number)

20-5313323
(I.R.S. Employer
Identification Number)

**664 Cruiser Lane
Belgrade, Montana 59714
(406) 388-0480**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Sean E. Browne
President and Chief Executive Officer
Xtant Medical Holdings, Inc.
664 Cruiser Lane
Belgrade, Montana 59714
(406) 388-0480**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

**Amy E. Culbert, Esq.
Emily Humbert, Esq.
Fox Rothschild LLP
222 South Ninth Street, Suite 2000
Minneapolis, Minnesota 55402-3338
(612) 607-7000**

Approximate date of commencement of proposed sale to the public: Not applicable.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. []

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. []

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. []

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. []

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer []

Non-accelerated filer [X]

Accelerated filer []

Smaller reporting company [X]

Emerging growth company []

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. []

**THIS POST-EFFECTIVE AMENDMENT WILL BECOME EFFECTIVE IN ACCORDANCE WITH THE PROVISIONS OF SECTION 8(C)
OF THE SECURITIES ACT OF 1933, AS AMENDED.**

DEREGISTRATION OF SECURITIES

Xtant Medical Holdings, Inc. (the “Company”) previously registered up to an aggregate of approximately 14,018,690 shares of common stock pursuant to the Registration Statement on Form S-1 (Registration No. 333-248766), filed with the Securities and Exchange Commission on September 11, 2020 and amended on October 30, 2020, which became effective on November 3, 2020 (the “Registration Statement”), in connection with its rights offering (the “Rights Offering”). The Company received subscriptions for 712,646 shares of common stock for gross proceeds of \$762,531.22. The Rights Offering expired at 5:00 p.m., Eastern Time, on December 4, 2020. In accordance with the undertakings contained in the Registration Statement, the Company is filing this Post-Effective Amendment No. 1 to the Registration Statement to deregister the 13,306,044 shares of common stock that remained unsold in the Rights Offering.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this post-effective amendment to the registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Belgrade, State of Montana, on February 24, 2021.

XTANT MEDICAL HOLDINGS, INC.

By: /s/ Sean E. Browne

Name: Sean E. Browne

Title: President and Chief Executive Officer